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CALLENDAR (ERIC'S)

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The Massachusetts Cents of 1788

As of late 2003, I am aware of 46 varieties of Massachusetts cents and half cents that I believe were produced by Joshua Witherle and his workmen at the Massachusetts mint. I am also aware of four additional varieties that I believe are contemporary counterfeits. These counterfeits have been collected as a part of the Massachusetts copper series and were given variety numbers by both Crosby and Ryder. Together, these coppers comprise a collectible series of 50 different varieties.

Half of these 50 varieties are varieties of cents dated 1788. The dies for these cents were produced by two different engravers. Joseph Callender, a Boston silversmith and die cutter for the Massachusetts cents and half cents of 1787, began [redacted] 1788 as the die cutter. His charges for the dies he made, 1 pound 4 shillings or $4 each, were deemed excessive for an operation that was not producing enough coinage to even cover its operating expenses. In the spring of 1788, he was replaced by Jacob Perkins, a young silversmith from the town of Newburyport, some 40 miles north of Boston. Perkins agreed to cut the dies in return for one percent of the value of the coins struck from his dies. As far as I know, all the dies cut by Callender in 1788 were cent dies. Perkins cut dies for both the cents and half cents.

We are fortunate that each die cutter used his own set of letter punches. As an easy guide, the coins struck from Callender dies have "S"s in "MASSACHUSETTS" that look like "S"s. The "S"s on the Perkins dies look like "8"s.

Callender S

Perkins S

Records at the Massachusetts Archives show Witherle paid Callender for 39 dies, 22 in 1787 and 17 in 1788. As fortune would have it, the known varieties of 1787 cents and half cents, that I believe were struck at the Massachusetts Mint, were struck from 22 dies. (Whether all these dies were produced by Callender is an open question because at least three different punch sets were used for some of the letters.) By coincidence, the known varieties of Callender's 1788 cents were struck using 17 dies. However, two of these dies were also used in 1787. In addition, Callender repaired three dies and I think I have found one that was reworked into another known die. Thus, I believe, there is the possibility that there are at least three additional Callender dies that may have been used to strike currently unknown varieties. (When I spoke on the 1787 varieties in 1997, there were three mystery Callender dies. Last year, a well-known colonial collector discovered a 1788 cent with a previously unknown Callender reverse die.) Keep looking. There may be additional Callender varieties waiting to be found.

There are 15 Callender cent varieties for 1788. These were struck using 9 different obverse dies and 8 reverse dies. All but one of the really tough 1788 Cents are Callender varieties. By my

count, of the 15 varieties, one is an R-8+ (one known), two are R-7+ (four to six known), two are R-7 (seven to nine known), and two are R-6 (13 to 30 known).

There are 9 known Perkins cent varieties of 1788. These varieties were struck using six obverse and seven reverse dies. I have not found any records of the number of dies Perkins supplied the Massachusetts Mint, so it is possible that there are additional Perkins varieties waiting to be found. The scarcest Perkins cent is an R-5, according to my records.

The twenty-fifth variety of 1788 cent is a contemporary counterfeit that I believe was struck at Machins Mills. This variety is an R-8- (three known to me).

The Crosby numbering and lettering convention for the Massachusetts copper coins has always bothered me. (Ryder retained the Crosby numbers and letters.) It is apparent that the descriptions for the obverse and reverse dies were determined independently from each other. It was only after he described and numbered or lettered each die that he looked at the coin to determine which pair of dies struck it.

I have chosen to depart from the Crosby/Ryder numbering convention. I have not seen sufficient numbers of Massachusetts coppers to be totally confident that my numbering order matches the actual emission sequence of the varieties as struck. However, when a die was used with more than one partner, I have, when I could determine the striking order, put the variety that was struck first ahead of the one that was struck later.

The Callender dies were used to strike 1788 cents early in the year. Witherle's records show he paid Callender for one or two dies most every week in early 1788. He paid for the last die on March 30 of that year. I assume that once Witherle received dies from Jacob Perkins, that he "retired" all the Callender dies and struck the remainder of the 1788 coins using Perkins' dies. No varieties are known that are struck from muled Callender and Perkins dies.

I estimate that only 400,000 to 420,000 Massachusetts coppers were struck in total. I have found no records of what might have become of any of the Massachusetts dies. If any currently exist, there whereabouts is a mystery to me.

This attribution guide is in draft form. I would appreciate comments on how it could be improved. If something is confusing or just does not work for you, please drop me a line at carver3@ioip.com. If you use attribution keys that I have not mentioned, and are willing to share, please let me know what they are. I am especially interested in die state information, an area that I believe is weak in the current draft. My rarity levels are based on my own experience. I realize that others will disagree in some cases. I value your input in improving the ratings. The guide does not include a condition census for any of the varieties, just a guideline of the grades at which the varieties become rather difficult to locate. The primary reason I have not included a condition census is that I do not have enough information about what exists to have a good feel for which coins are the best of their variety.

The Callender Cents of 1788

My keys for identifying the Callender cent obverses are:

1) the relationship between the seven pleats of the indian's tunic and his legs,

2) the relationship between the arrowhead and the outside pleat to the viewer's right,

3) the distance of the bow from the letter "N" of "COMMON", and

4) the relationship of the bottom of the bow and the indian's right foot.

My keys for identifying the Callender cent reverses are:

1) the pattern of the arrows,

2) the pattern of the leaves (including the leaf near the tail feathers), and

3) the spacing in the date.

I will identify other diagnostic features in the descriptions of each variety as appropriate.

Variety 1

1-A

Obverse not listed in Crosby. Assigned Crosby 15-M
Obverse not listed in Ryder. Assigned Ryder 15-M

Obverse 1. The second pleat (from the viewer's left) lies over the center of the indian's right leg with the first and third half on and half off. The fourth and fifth pleats lie over the indian's left leg. The sixth and seventh pleats are clear of the left leg (*diagnostic).* The arrowhead is large and its point lies left of center of the seventh pleat. The bow is well separated from the "N" in "COMMON". The bottom of the bow is just off the mound and above the indian's right toe. Spikes appear at both the top and bottom of the bow. The grass on the mound is strong about the indian's feet and both inside and outside the bottom of the bow. About two-thirds of the indian's hair lies outside the tunic's collar (*diagnostic*).

Reverse A. The arrows are well-spread. Above the talon, every other shaft is heavy and the arrowheads large. The lowest arrow points slightly down and to the right (*diagnostic*). The point of the arrow ends short of and points just above the period after "MASSACHUSETTS". The butt end of the arrows (below the talon) are all lightly cut. The top three are close to the feather that begins just right of the point of the shield (*diagnostic*). The leaves above the talon are well spaced with the tip of the third or middle leaf pointing right (up) and the tips of the other leaves pointing left. The leaf below the talon is close to, but does not touch, the leftmost tail feather and its tip bends back to the viewer's left. There is a single heavy bar that is evenly spaced between the date and the eagle's tail. The date is evenly and widely spaced with the 7 leaning right and the 8s leaning slightly left. The top of the 1 is well below the top of the 7 and the second 8 is slightly lower than the first. There is no lump behind the "C" in "MASSACHUSETTS".

Die States. None known to me.

Rarity 5. Not common. In my experience, the seventh most common of the fifteen Callender varieties. Difficult to locate in grades above Very Fine. I am not aware of any mint state specimens.

Variety 2

2-A [redacted] Crosby 9-M

Obverse not listed in Ryder. Assigned Ryder 16-M

Obverse 2. The first pleat is clear of the indian's right leg. The second and third lie atop the right leg. About a quarter of the fourth pleat lies atop the indian's left leg with the remainder in the space between his legs. The sixth pleat is about half on the left leg and the seventh is clear of the left leg. A graver's slip left a long spike from the end arrow shaft that ends between the "W" and the "E" in "WEALTH". The bow is far from the letter "N". The bottom of the bow is split (*diagnostic*). In the early die state, there is a strong spike from the right side of the top of the bow. A line along the tops of the outstretched arms of the star would hit the indian in the eye (*diagnostic*).

Reverse A. The lowest arrow points slightly down and to the right (*diagnostic*). No lump is present behind the "C" in "MASSACHUSETTS" in the early die state. It is present on all the later die state specimens I have seen.

Die States. In the early die state, grass is heavy from the left edge of the mound to the right. The bow rests on a mound line that disappears into the top of the indian's right moccasin. The mound lines are up against the inside of the left moccasin from the heal to the toe. The die was lapped (reground) which removed much of the mound and most of the grass. The bottom of the bow is now in the air. The lines of the mound are distant from the inside of the left moccasin except at the toe. The feathers in the headdress are much less substantive. I have one specimen that looks as if the die may have been lapped again, but the coin is beat up and I am not certain.

Rarity 5+. Not common. Eighth scarcest of 15. My experience is that the late die state is about twice as common as the early. Difficult to locate in grades above Very Fine.

Variety 3

3-A

Crosby 7-M
Ryder 7-M

Obverse 3. Very similar to obverse 5. The second and third pleats cover the indian's right leg and the fourth is half over his left. The line between the third and fourth pleats runs up the inside of the indian's right leg. On obverse 5, it runs up the inside of his *left* leg. The point of the upper barb on the arrowhead is slightly below the hemline of the tunic. The distance of the bow from the "N" is about the same as the width of the bow and bow string at its closest point to the "N".

Reverse A. The lowest arrow points slightly down and to the right (*diagnostic*). The die chip before the "C" is smaller and sharper on both die states of this variety than it is on the late state of variety 2. Therefore, I believe this variety was struck between the early and late strikes of variety 2.

Die States. On the early strikes, a thread connects the bottom of the bow string to the bottom of the bow, the grass is thick and long, especially on the extreme right side of the mound as the viewer sees it. After the die is lapped, the thread disappears, about half of the grass blades are lost, and the distance between the bow and "N" widens.

Rarity 5-. This is the fifth most common Callender variety of the year. The early die state is encountered much less frequently than the later. Difficult to locate in Extremely Fine or higher.

Variety 4

4-A

Obverse not in

Crosby 4-M
Ryder 9-M

Obverse 4. Bow touches "N" (*diagnostic*). Third pleat is long and its bottom curves to viewers's left (*diagnostic*). Bottom of fourth pleat also curves to viewer's left. About one-quarter of the fourth pleat covers the indian's left leg and the remainder covers the space between the indian's legs.

Reverse A. The lowest arrow points slightly down and to the right (*diagnostic*). The lump behind the "C" is quite noticeable and a second smaller lump is in the field one-third of the way between it and the right seriph of the second "A" in "MASSACHUSETTS".

Die States. None known to me.

Rarity 6. Sixth scarcest (tenth most common) of the Callender varieties. Difficult to locate in grades above Fine.

Variety 5

5-A

Crosby 12-M
Ryder 12-M

Obverse 5. This is Ryder's Obverse 6 of 1787 and is the first of two 1787 obverse dies that were used to strike cents in 1788. It is very similar to Obverse 3. The third tunic pleat lies half over the indian's right leg and half over the space between his legs. The gap between the third and fourth pleats follows the inside of the indian's left leg. On Obverse 3, the space between the pleats runs up the indian's *right* leg. The angle of the indian's belt makes the pleats increase in length as they move from left to right. The upper barb of the arrow head is even with the bottom of the seventh pleat (*diagnostic*) and the arrowhead point is vertically aligned with outside edge of the seventh pleat. The bow is distant from the "N". The bow string above the indian's arm is thinner that the string below the arm and leans to the left. There are many sprigs of grass atop the mound about the indian's feet, and the bottom of the bow, which rests on the mound, is separated from the indian's right toe by three sprigs. There is a light scratch in the die that rises from the blade of grass nearest the inner part of the indian's left ankle that rises through the upper flap of his moccasin and runs up and over his left shin. The indian's arms are particularly muscled, especially his right forearm and left shoulder.

Reverse A. The lowest arrow points slightly down and to the right (*diagnostic*). A dull lump lies in the field just behind and above the center of the "C" in Massachusetts and a second, smaller lump lies in the field about one-third of the way between it and the bottom of the right seriph of the second "A" in "Massachusetts".

Die States. None known to me.

Rarity 4. Reasonably common for a Massachusetts cent. The fourth most common Callender cent of the year. Difficult to locate in grades above Extremely Fine. None known to me in mint state.

Variety 6

5-B

Reverse not listed in Crosby. Assigned Crosby 12-O
Reverse not listed in Ryder. Assigned Ryder 12-O

Specimen not available for photography

Obverse 5. The upper barb of the arrow head is even with the bottom of the seventh pleat (*diagnostic*). Tops of "COMMON WEALTH" slightly weaker than in variety 5.

Reverse B. All the arrow shafts above the talon begin to the left of the upper claw. The arrowheads on the third, fourth and fifth arrows touch the wing (*diagnostic*). The seventh (lowest) arrow shaft is horizontal and the head ends just above and left of the period. The butt ends of the arrows form a right angle like the letter "L" with those ending in the vertical line close to the tail feathers. The tip of the second leaf bends to the right and almost touches the underside of the eagle's right wingtip (*diagnostic*). The fourth and fifth leaves are distant from the eagle's right leg (*diagnostic*). A single, heavy line lies between the date and the eagle.

Die States. None known to me.

Rarity 7+. Third scarcest Callender variety. The finest known is Very Fine.

Variety 7

5-C

Crosby 12-K
Ryder 12-K

Obverse 5. The upper barb of the arrow head is even with the bottom of the seventh pleat (*diagnostic*). The die scratch through the indian's left moccasin is weaker than in variety 5 but is still noticeable, especially on both sides of the inner flap of the moccasin. The tops of "COMMON" are weaker than on variety 5.

Reverse C. There are six nicely spaced arrows with heavy shafts and several with very thin shafts. The points of the third and fourth heavy-shafted arrows touch the eagle's wing. The shafts of the two lowest heavy-shafted arrows are long with the arrowheads extending beyond the outer plane of the wing. The point of the lowest heavy-shafted arrow ends above the period and almost touches the last "S" in "MASSACHUSETTS" (*diagnostic*). A thin-shafted arrow appears below the claw of the upper talon and disappears into the arrowhead of the lowest heavy-shafted arrow. The butt ends of the arrows are distant from the eagle's tail. The leaves on the branch are nicely spaced. The tips of the first leaf (closest to the talon below the branch) and the third leaf point to the right, while the tips of the second and fifth leaves point left. The fourth leaf has no stem. The leaf below the talon is nearly vertical and the tip points left toward the tail. There are two lines between the date and the eagle. The lower is thicker and slightly longer and is closer to the date than the upper line is to the eagle's tail. The distance between the digits grows slightly as one moves from the 1 to the last 8. The seven leans ever so slightly right, while the 8s lean slightly left. This die was reworked to create reverse D below.

Die States. None known to me.

Rarity 6-. Difficult to locate, but in the middle of Callender cent rarities. Eighth most common of the 15 varieties. This variety is difficult to locate in grades above Fine. The finest known to me is Extremely Fine.

Variety 8

5-D

Crosby 12-I
→ Ryder 12-I

Obverse 5. The upper barb of the arrow head is even with the bottom of the seventh pleat (*diagnostic*). The die is wearing out. The tops of the letters in the legend are very weak as is the grass about the indian's feet. The scratch through the indian's left moccasin is no longer visible.

Reverse D. Instantly identifiable by the large space or gap between leaves 3 and 4 (*diagnostic*). Six of the arrows above the talon have heavy shafts. The arrowhead of the second is higher than the first. The fourth touches the wingtip. The tip of the lowest arrow is closer to the S than the period. The butt ends of the arrows are nicely, but closely fanned and distant from the tail. The tips of the second and third leaves point to the right. The other leaf tips point to the left. The "M" is distant from the adjacent "A" and well below the wingtip (*diagnostic*). There are two heavy lines between the date and the eagle. The lower line is longer and heavier than the upper. The upper is closer to the eagle's tail than the lower is to the date. The date is widely spaced but shifted right with the 1 and 7 closer than the other digits. The 7 leans right and both 8s lean decidedly left.

Die States. The obverse die weakens at the periphery so that the obverse appears to be two or three grades lower than the reverse in the later strikes.

Rarity 4-. Third most common Callender cent of the year. Specimens with the obverse grading Very Fine or better are difficult to locate. I am unaware of any in Mint State.

Variety 9

5-E

Crosby 12-H
Ryder 12-H

Obverse 5. The upper barb of the arrow head is even with the bottom of the seventh pleat (*diagnostic*). Peripheries are very weak. Headdress and bottom of mound are indistinct. Grass is almost entirely gone. The strongest features are the indian's legs, the left side of his body, his left arm, and the arrow.

Reverse E. First two arrow shafts above the talon are parallel, with the second longer, thicker, and with an arrowhead whose only barb is to the right. The third arrow shaft is thin and begins midway up the second. Both wingtips are pointed. Fourth through seventh shafts all emanate from same point atop the highest claw. The ninth begins at the end of the claw. The eighth and tenth arrow shafts are thin and shorter than the ninth. The period is small and weak. The fourth and fifth leaves are more widely separated than the third and fourth (*diagnostic*). Two lines separate the date from the eagle. The lower is much heavier than the upper. The date is evenly spaced. Both 8's lean left, the first especially so. The 7 is not tilted.

Die States. None known to me.

Rarity 7. Tied for fourth scarcest Callender variety. The finest I know of is a strong Very Fine.

Variety 10

6-D

Unknown to Crosby. Assigned Crosby 17-I
Unknown to Ryder. Assigned Ryder 17-I

Obverse 6. This is obverse 4 of 1787. The indian's chest is thin and his hips broad. The arrowhead is large and ends well below and under the seventh pleat. The indian's head is tilted forward (*diagnostic*). The indian's right foot looks deformed, being too thin from the ankle to the toe and very curved (*diagnostic*). The upper left part of the first "M" in "COMMON" is not struck up.

Reverse D. Instantly identifiable by the large space or gap between leaves 3 and 4 (*diagnostic*). The lowest arrow and the period are both weakly struck.

Die States. None known to me.

Rarity R-7. Fourth scarcest of the Callender varieties.

Variety 11

7-F

Crosby 6-N
Ryder 6-N

no period

Obverse 7. The second and third pleats cover the indian's right leg. The fourth pleat is about one-fourth on the left leg and the sixth is about three-fourths on that leg. The space between the third and fourth pleats runs up the inside of the indian's right leg. This obverse is very similar to obverse 5, but the space between the third and fourth pleats run up the insides of different legs. The arrowhead is under the seventh pleat. The distance from the bow to the "N" is about the width of two bows at the closest point. There is a short spike at the bottom of the bow which rests on the mound. The indian looks like he is bending forward slightly at the waist.

Reverse F. The "no period" variety (*diagnostic*). Ten arrows above the talon that are closely and evenly spaced. The second and third butt end of the arrows are shorter than the first and fourth, giving the appearance of a notch. The leaves are evenly spaced. The tip of the third leaf bends right. The tips of all the others (above the talon) lean left. The leaf below the talon is separated from the tail feathers by the width of the leaf (*diagnostic for the Callender varieties*). The 17 of the date are very close. The 7 8 8 are evenly spaced. The tops of 1 7 and the first 8 are on the same line. The last 8 is slightly high. A double line separates the date from the eagle. The bottom line is heavier, but the upper line between the date and the eagle is stronger than on variety 12. A small spike emerges from the center of the back of the eagle's head.

Die States. None known to me.

Rarity 3. The second most common Callender variety. Difficult to locate in Almost Uncirculated or better grades.

Variety 12

8-F

Crosby 13-N
Ryder 13-N

Obverse 8. The fourth pleat of the tunic exactly fills the space between the indian's legs. The second and third pleats cover his right leg and the fifth and three-fourths of the sixth cover his left. The bow is just more than a bow's width from the "N". The bottom of the bow is in the air well above the top of the mound. The arrow shaft above the indian's hand bends upward about halfway to its end (*diagnostic*). In this die state, a lump forms on the shaft below the bend point (*diagnostic*). The feathers on the arrow are much stronger above the shaft than below. Earlier than Variety 11. No lump on the arrow shaft.

Reverse F. The "no period" variety (*diagnostic*). The leaf below the talon is separated from the tail feathers by the width of the leaf (*diagnostic for the Callender varieties*). The upper line fades in this die paring, especially in the center and on the right side.

Die States. None known to me.

Rarity 5-. The sixth most common Callender variety. Difficult to find in Very Fine of better.

Variety 13

8-G

Unknown to Crosby. Assigned 13-P
Unknown to Ryder. Assigned Ryder 13-P

Specimen not available for photography

Obverse 8. The fourth pleat of the tunic exactly fills the space between the indian's legs. The bottom of the bow is in the air well above the top of the mound. The arrow shaft above the indian's hand bends upward about halfway to its end (*diagnostic*).

Reverse G. Unknown. Specimen unavailable for study.

Die States. None known.

Rarity 8+. Scarcest of the Callender varieties. A single example reliably reported.

Variety 14

8-D

Unknown to Crosby. Assigned Crosby 13-I
Unknown to Ryder. Assigned Ryder 13-I

Obverse 8. The fourth pleat of the tunic exactly fills the space between the indian's legs. The bottom of the bow is in the air well above the top of the mound. The arrow shaft above the indian's hand bends upward about halfway to its end (*diagnostic*). In this die state, a lump forms on the shaft below the bend point. The feathers on the arrow are much stronger above the shaft than below.

Reverse D. Instantly identifiable by the large space or gap between leaves 3 and 4 (*diagnostic*). The end of the lowest arrow and the period are very weak. The center of the die is sprung and the "M" and the shield is very weak. One example shows bulge lines from K-2, K-4:30, and K-8 to the center.

Die States. Increasing evidence of die failure as stated above.

Rarity 7+. Second scarcest Callender die. The finest known to me is Very Fine.

Variety 15

9-H

Crosby 10-L
Ryder 10-L

Obverse 10. The second pleat is only half on the indian's right leg (*diagnostic for a Callender variety*). The fourth pleat fills the space between the indian's legs. No part of the arrowhead lies under the seventh pleat. The bow rests on the mound slightly to the (viewer's) left of the indian's right foot. The "W" of "WEALTH" is slightly low (*diagnostic*).

Reverse H. The second and fourth arrows above the talon are heavier and longer than the first and third and have larger heads. The butt ends of the arrows are almost perfectly aligned on a diagonal (*diagnostic*). The tips of the first, second, and third leaves bend to the right. Those for the fourth and fifth leaves bend left. The third leaf does not reach the second lowest feather on the eagle's right wing. A double line separates the date and the eagle. The lower line is longer and slightly thicker. The lowest tail feather just touches the upper line. The 7 8 are more widely separated than the 1 7 or 8 8. The 7 leans right. Both 8s lean noticeably left.

Die States. In the early die state, there is light grass on the mound around and between the indian's feet. One strand of the indian's hair touches the collar. The die was lapped. Most of the grass disappears. The hair no longer touches the collar and the upper line of the indian's right shoulder disappears. The arrow the indian is holding now has no feathers below the shaft.

Rarity 2+. By far the most common 1788 cent. Available in all grades.